

REMARKS

Upon entry of the present amendment, claims 1, 10 and 12 will have been amended to clarify the recitations thereof while claims 18 through 23 will have been submitted for consideration by the Examiner. In view of the herein contained amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding objection and rejection set forth in the above mentioned Official Action. Such action is now believed to be appropriate and proper and is thus respectfully requested, together with an indication of the allowability of all of the claims pending in the present application, in due course.

The above noted amendments the claims as well as the newly submitted claims merely further define features and aspects of the present invention and are thus submitted to be appropriate for entry.

Initially, Applicant respectfully notes the filing of a Supplemental Information Disclosure Statement in the present application on November 28, 2008. Since the above noted Supplemental Information Disclosure Statement was filed in full compliance with 37 C.F.R. § 1.97 and 1.98, Applicant respectfully requests that the Examiner consider each of the documents cited in the above noted Supplemental Information Disclosure Statement and forward a signed and initialed copy of the PTO-1449 Form attached to the above noted Information Disclosure Statement to confirm and clarify the record in the present application with regard to the consideration and citation of the documents cited in the above noted Supplemental Information Disclosure Statement.

In the outstanding Official Action, the Examiner objected to claim 12 because of a noted informality. By the present response, Applicant has amended claim 12 in order to eliminate the

above noted informality. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to claim 12.

In the outstanding Official Action the examiner rejected claims 1, 2, and 6 - 17 under 35 U.S.C. § 103(a) as being unpatentable over TSUYUKI et al. . (U.S. Patent No. 5,547,457) in view of WILEZYNSKI et al. (U.S. Patent No. 3,560,080). Applicant respectfully traverses the above noted rejection and submits that it is inappropriate with respect to the combination of features recited in each of Applicant's claims, whether considered prior to the herein contained amendments and even more certainly in view of the herein contained amendments.

Applicant's invention is directed to an objective optical system configured to be implemented in a tip of an endoscope as well as to a method of assembling an objective optical system that is configured to be implemented in a tip of an endoscope. Utilizing the objective optical system recited in claim 1 as nonlimiting example of Applicant's invention, the present invention is directed to an objective optical system that is configured to be implemented in a tip of an endoscope. The system includes a first lens unit having a first lens barrel and a first optical system including a plurality of lens elements assembled in the first lens barrel and aligned in a direction of a first common optical axis. A second lens unit, having a second lens barrel, is engageable with the first lens barrel and a second optical system, including a plurality of lens elements is aligned in a direction of a second common optical axis. When the first lens barrel is engaged with the second lens barrel, the lens elements of the first and second lens barrels are aligned along a common axis, the first common axis and the second common axis comprising the common axis. The first lens unit includes an alignment lens movable in a direction perpendicular to an optical axis thereof, movement of the alignment lens in the direction perpendicular to the optical axis alone adjusting an alignment of the entire plurality of lens

elements assembled in the first lens unit, the first lens barrel being formed with a plurality of unthreaded holes through which parts of a circumferential surface of the alignment lens are exposed, the alignment lens is movingly accommodated in the first lens barrel, and the alignment lens is moved, in the direction perpendicular to the optical axis, by pins inserted through the plurality of holes, respectively.

In setting forth the outstanding rejection asserted against the claims pending in the present application, the Examiner asserted that TSUYUKI et al. is silent with respect to the alignment lens being moved by alignment pins in a direction perpendicular to an optical axis thereof. While this is certainly true, Applicant respectfully submits that the shortcomings of TSUYUKI et al. are far more substantial than those admitted by the Examiner. In particular, TSUYUKI et al. contains no provision for alignment of an individual lens, by pins or by any other mechanism. Moreover, the structure of the lens barrel of TSUYUKI et al. precludes any such alignment. Yet further, TSUYUKI et al. does not contain any particular alignment lens. In this regard, Applicant notes that according to a feature of the present invention, a specific alignment lens is defined such that movement of the alignment lens alone in a direction perpendicular to an optical axis of the first lens unit provides adjustment of the entire plurality of lens elements of the first lens unit.

Moreover, at least this feature of Applicant's invention is also not disclosed, taught, suggested or even rendered obvious by WILCZYNSKI et al. In particular, according to the teachings of WILCZYNSKI et al, each individual lens element must be separately and individually adjusted. There is also no particular alignment lens in WILCZYNSKI et al such that movement of the alignment lens alone in a direction perpendicular to an optical axis performs an alignment of all of the plurality of lens elements of the first lens unit.

In direct contrast to the above, and as now more clearly and explicitly recited in claims 1 and 10, according to the present invention, it is only necessary to move the alignment lens in a direction perpendicular to an optical axis in order to achieve alignment of the entire plurality of the lens elements of the first lens unit. In this regard the Examiner's attention is respectfully directed to paragraphs [0049], [0058], [0075] and [0076].

Accordingly, and as can be readily understood, the present invention provides significant advantages and efficiencies over the alignment structure and method of WILCZYNSKI et al. In particular, it is significantly easier and results in significant time savings to adjust the alignment of a single lens and thereby achieve alignment of an entire plurality of lenses of a lens unit, than to have to individually adjust and align every single lens of the lens unit. Thus, the present invention facilitates efficient assembly and alignment of the lens elements of an optical system of an endoscope by significantly reducing the number of alignment operations necessary.

Furthermore, rather than providing an unthreaded hole that exposes parts of the circumferential surface of the alignment lens without exposing the circumferential surface of the other lenses within the first lens unit, as recited in various of the dependent claims, WILCZYNSKI et al provides a series of axially extending slots 30 through 32, as shown in figure 2 thereof. As a result of these slots, the strength, integrity and rigidity of the lens mounting ring 35 is weakened, in contrast with the structure of the present invention.

For each of the above reasons and certainly all of the above noted reasons, Applicant respectfully submits that all the claims in the present application are clearly patentable over the combination of TSUYUKI et al. and WILCZYNSKI et al.

By the present response, Applicant has submitted a number of additional dependent claims for consideration by the Examiner. These claims are submitted to recite various

additional, fully disclosed features of Applicant's invention and to provide Applicant with the scope of coverage to which he is entitled for the presently disclosed invention. In particular, the difference in clearance distances, as recited in claims 18 and 19, which is explicitly disclosed at least in paragraph [0058] is not disclosed by either of the references relied upon by the Examiner in the outstanding Official Action.

Similarly, the biasing of the pins away from the circumferential surface of the alignment lens while bearing against the circumferential surface is also not disclosed by any of the references relied upon in the outstanding rejection. This feature of Applicant invention is explicitly disclosed at least in paragraph [0064].

Accordingly, Applicant respectfully submits that no proper combination of the references relied upon by the Examiner contain disclosures that are adequate or sufficient, even as proposed to be combined by Examiner, to render any of the claims in the present application unpatentable under 35 U.S.C. § 103. Accordingly, an action to such effect is respectfully requested, in due course.

Applicant notes that the status of the present application is subject to final rejection and that an Applicant may not, as a matter of right, amended an application once a final rejection has been issued therein. Nevertheless, Applicant respectfully submits that the present amendment is appropriate for entry. In particular, the present amendment does not raise any new issues requiring further consideration or search but merely defines the recited features of Applicant invention with enhanced clarity and specificity.

Accordingly, Applicant respectfully requests entry of the present amendment, reconsideration and withdrawal of the outstanding rejection as well as an indication of the allowability of all of the claims pending herein.

SUMMARY AND CONCLUSION

Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so. Applicant has amended the claims so as to eliminate a noted informality as well as to more clearly define the present invention. Additionally, Applicant has submitted a number of new dependent claims for entry and consideration in the present application.

Applicant has discussed the disclosure of each of the references relied upon in the outstanding prior art rejection and has noted the shortcomings thereof with respect to the present invention. Applicant has additionally discussed the features of the present invention, as reflected in the present claims and has pointed out the deficiencies of the disclosures of the references applied by the Examiner with respect to such features. Accordingly, Applicant has provided a clear evidentiary basis supporting the patentability of all of the claims in the present application and respectfully requests an indication to such effect, in due course.

Applicant has noted that the status of the present application is subject to final rejection and with respect to such status has provided a basis for the propriety of the entry of the present amendment.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
Shinsuke OKADA

A handwritten signature in black ink, appearing to read "Bruce H. Bernstein", written over a horizontal line.

Bruce H. Bernstein
Reg. No. 29027

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

William Pieprz
Reg. No. 33,630